

09/778997 12-20-07

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

13-26. (Cancelled)

27. (Previously Presented) A process for synthesizing metal borohydride alkali solutions which comprises:

synthesizing a carrier powder for proton H;
bonding hydrogen to said carrier powder;
producing metal borohydride powder from said carrier powder;
treating said metal borohydride powder with an alkali solution to produce a metal borohydride alkali solution.

28. (Currently Amended) The process according to claim 27 wherein synthesizing a carrier powder for proton H comprises:

forming a mixture including [[of]] a metal that is capable of forming hydrides with hydrogen and with less than about 50 wt% of a hydrogen storage alloy;
mechanically pulverizing said mixture;
mechanically mixing the resulting pulverized mixture with less than about 100 wt% of an alkali compound[[s]]; and

subjecting the resulting mixture to water vapor at less than one atmosphere ~~for less than about 48 hours~~ to produce a proton H carrier powder.

29. (Currently Amended) The process according to claim 27 wherein synthesizing a carrier powder for proton H comprises:

forming a mixture of a first metal with ~~less than about 10 wt%~~ a carbon black coated with a second metal selected from the group consisting of [[a]] platinum, palladium and mixtures and alloys thereof; and

mechanically pulverizing said mixture.

30. (Currently Amended) The process according to claim 27 wherein bonding hydrogen to said proton H carrier powder comprises subjecting said proton H carrier powder to hydrogen gas ~~at a pressure of less than about 50 atmospheres~~ at a temperature from ambient to about 400°C ~~for less than 48 hours~~ so that hydrogen is carried by said carrier powder.

31. (Currently Amended) The process according to claim 27 wherein producing a metal borohydride powder from said proton H carrier powder comprises mixing a quantity of said proton H carrier powder with a non-aqueous metal boron oxide or borax and pulverizing the resulting mixture ~~for less than 48 hours under hydrogen gas at a pressure of less than about 50 atmospheres~~ so that a metal borohydride powder is produced.

32. (Previously Presented) The process according to claim 27 wherein treating of said metal borohydride powder with an alkali solution comprises adding said metal borohydride powder to an alkali solution; and

filtering out precipitates, leaving metal borohydride alkali solution.

33. (Currently Amended) A process for synthesizing substantially pure metal borohydrides ~~borides~~ which comprises:

synthesizing a carrier powder for proton H;
bonding hydrogen to said carrier powder;
producing a metal borohydride powder from said carrier powder;
dissolving said metal borohydride powder with a suitable solvent;
filtering precipitates; and
evaporating said suitable solvent to leave substantially pure metal borohydride.

34. (Currently Amended) The process according to claim 33 wherein synthesizing a carrier powder for proton H comprises:

forming a mixture including a [[of]] metal that is capable of forming hydrides with hydrogen and with less than about 50 wt% of a hydrogen storage alloy;
mechanically pulverizing said mixture;
mechanically mixing the resulting pulverized mixture with less than about 100 wt% ~~of an~~ alkali compound[[s]]; and
subjecting the resulting mixture to water vapor at less than one atmosphere ~~for less than about 48 hours~~ to produce a proton H carrier powder.

35. (Currently Amended) The process according to claim 33 wherein synthesizing a carrier powder for proton H comprises:

forming a mixture of a first metal with ~~less than about 10 wt%~~ a carbon black coated with a second metal selected from the group consisting of platinum, palladium and mixtures and alloys thereof; and
mechanically pulverizing said mixture.

36. (Currently Amended) The process according to claim 33 wherein bonding hydrogen to said proton H carrier powder comprises subjecting said proton H carrier powder to hydrogen gas ~~at a pressure of less than about 50 atmospheres~~ at a temperature from ambient to ~~about 400°C for less than about 48 hours~~ so that hydrogen is carried by said carrier powder.

37. (Currently Amended) The process according to claim 33 wherein producing a metal borohydride powder from said carrier comprises mixing a quantity of said proton H carrier powder with a non-aqueous metal boron oxide or borax and pulverizing the resulting mixture ~~for less than about 48 hours under hydrogen gas at a pressure of up to about 50 atmospheres~~ so that a metal borohydride powder is produced.

38. (Previously Presented) The process according to claim 33 including forming a substantially pure metal borohydride by dissolving said metal borohydride powder into a liquid that can dissolve metal borohydrides;
filtering the resulting solution; and
evaporating the resulting liquid to obtain substantially pure metal borohydride.

39. (Currently Amended) A [[The]] process of synthesizing metal borohydrides which comprises:

forming a mixture including a [[of]] a metal that is capable of forming hydrides with hydrogen ~~and with less than about 50 wt%~~ of a hydrogen storage alloy;

mechanically pulverizing said mixture;

mechanically mixing the resulting pulverized mixture with ~~less than about 100 wt%~~ of an alkali compound[[s]];

subjecting the resulting mixture to water vapor at less than one atmosphere ~~for less than about 48 hours~~ to produce a proton H carrier powder;

subjecting said proton H carrier powder to hydrogen gas ~~at a pressure of less than about 50 atmospheres~~ at a temperature from ambient to ~~about 400°C for less than about 48 hours~~ so that hydrogen is carried by said carrier powder;

mixing a quantity of said carrier powder with metal boron oxide or borax and pulverizing the resulting mixture ~~for less than about 48 hours~~ under hydrogen gas ~~at a pressure of less than 50 atmospheres~~ so that a metal borohydride powder is produced;

adding said metal borohydride powder to an alkali solution; and

filtering out precipitates, leaving a metal borohydride alkali solution.

40. (Currently Amended) A [[The]] process of synthesizing substantially pure metal borohydride which comprises:

forming a mixture including a [[of]] a metal that is capable of forming hydrides with hydrogen ~~and with less than about 50 wt%~~ of a hydrogen storage alloy;

mechanically pulverizing said mixture;

mechanically mixing the resulting pulverized mixture with ~~less than about 100 wt%~~
of an alkali compound[[s]];

subjecting the resulting mixture to water vapor at less than one atmosphere ~~for less~~
~~than about 48 hours~~ to produce a proton H carrier powder;

subjecting said proton H carrier powder to hydrogen gas ~~at a pressure of less than~~
about 50 atmospheres at a temperature from ambient to ~~about 400°C for less than about 48~~
hours so that hydrogen is carried by said carrier powder;

mixing a quantity of said carrier powder with boron oxide or borax and pulverizing
the resulting mixture ~~for less than about 48 hours~~ under hydrogen gas ~~at a pressure of up to~~
~~about 50 atmospheres~~ so that a metal borohydride powder is produced;

dissolving said metal borohydride powder into a liquid that can dissolve metal
borohydrides;

filtering the resulting solution; and

evaporating said liquid to obtain substantially pure metal borohydride.